

AMENDMENTS TO THE DRAWINGS

The attached single sheet of drawings reflects changes to Figs. 4A and 4B. This sheet replaces the original sheet of these Figures. In Figs. 4A and 4B, Applicant has been requested to include the phrase "Prior Art" and has complied with the Office Action's request.

Attachments: 1 Replacement Sheet

REMARKS

Reconsideration of the above-identified application in view of the foregoing amendments and following remarks is respectfully requested.

A. Claim Status / Explanation of Amendments

Claims 1-12 are pending and were rejected. As to the merits, claims 1-4, and 6-10 were rejected pursuant to 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,661,451 to Kijima, et al. ("Kijima") in view of U.S. Patent Application No. 2003/0020819 to Fukuda ("Fukuda"). [5/29/07 Office Action, p. 3]. Claim 12 was rejected pursuant to 35 U.S.C. § 103(a) as allegedly being unpatentable over Kijima in view of Fukuda and further in view of U.S. Patent No. 7,145,598 to Maeda ("Maeda"). [5/29/07 Office Action, p. 6]. Claims 5 and 11 were rejected pursuant to 35 U.S.C. § 103(a) as allegedly being unpatentable over Kijima in view of Fukuda and further in view of U.S. Patent No. 6,630,965 to Xue, et al. ("Xue"). [5/29/07 Office Action, p. 7].

By this paper, claims 1 and 7 are amended and claims 2 and 8 are canceled without prejudice or disclaimer. Applicant reserves the right to pursue canceled claims in a continuing application. Claims 1 and 7 are amended such that "photoelectric conversion elements" is changed to "lines of photoelectric conversion elements." In addition, the reference to various inputted or outputted "signals" in claims 1 and 7 is amended to refer to "lines of signals." Support for these changes to claims 1 and 7 can be found throughout the application as originally filed including, for example, Figs. 2A-2B, Figs. 4A-4B, and accompanying text.

Claims 1 and 7 are further amended to incorporate the limitations of dependent claims 2 and 8, respectively, such that they now recite, *inter alia*, a second reading method wherein "a

spatial distance between the barycenters of first and second lines ... of the added signals being different from a spatial distance between the barycenters of the second line and of a third line of the added signals" and a correction unit which corrects positions of barycenters "so that the spatial distances between the barycenters of the first to third lines becomes equal." Certain grammatical changes are also made to claim 1 which is amended such that "a signal processing apparatus for processing an image signal outputted from..." is changed to "a signal processing apparatus comprising:" and the phrase "which can be driven" now reads "a driver which drives said image sensing device..."

No new matter will be introduced into this application by entry of these amendments. Entry is respectfully requested.

B. Claims 1-4 and 6-10 are Patentable over Kijima in view of Fukuda

Applicant respectfully traverses the rejection of claims 1-4 and 6-10. As set forth in detail below, Kijima and Fukuda do not teach, disclose, or suggest each and every element of these claims. Accordingly, the Section 103 rejection is respectfully traversed.

First, in numerous instances, the Office Action cites, without support, alleged "motivations" for certain combinations or modifications. However, it is respectfully noted that such motivation must have been present in the prior art. Motivations that arise from the inventor's disclosure or later acknowledgement of others cannot be used in a rejection. Since the rejection does not cite anywhere in the prior art where such motivation comes from, it must be presumed that the alleged motivation comes from somewhere other than the prior art and use of that motivation is improper and prejudicial. For this reason alone, the obviousness rejections should be withdrawn. Notwithstanding the problems with the recited "motivation," the obviousness rejections are overcome and traversed on the merits as follows.

As recognized and asserted by the Office Action, Kijima does not teach a correction unit that "corrects positions of barycenters of the inputted signals when the second reading method is set" as recited in Applicant's pending claim 1. [5/29/07 Office Action, p. 4]. In attempting to remedy this deficiency, the Office Action relies on Fukuda who is directed to an image pickup apparatus capable of suppressing deterioration in image quality when pixels are skip-read-out from a solid-state image pickup device. [Fukuda, ¶16]. In one embodiment, Fukuda discloses an image pickup apparatus comprising a system controller which spatially corrects the average of the locations of the pixels to be added such that it agrees with the barycenter of the unit area for pixel skip-reading-out. [Fukuda, ¶108]. An example is shown by Figs. 13A and 13B of Fukuda which are reproduced below.

FIG.13A

G	R	G	R	G	R	G	R
B	G	B	G	B	G	B	G
G	R	G ₁	R	G ₂	R	G	R
B	G	B	G	B	G	B	G
G	R	G ₃	R	G ₄	R	G	R
B	G	B	G	B	G	B	G
G	R	G	R	G	R	G	R
B	G	B	G	B	G	B	G

FIG.13B

9	3
3	1

In Fukuda's apparatus, correction of the positions of barycenters during four-pixel addition for half pixel skip-reading-out is accomplished according to the following:

During half pixel skip-reading-out, as shown in Fig. 13A, for a unit area for pixel skip-reading-out expressed as the leftmost uppermost rectangle, four pixels G₁ to G₄ are selected at intervals of a pitch of two pixels (pixels G_i in Fig. 6) and added up. In this case, as shown in Fig. 13B, the pixels G₁ to G₄ are weighted at a ratio of 9:3:3:1. [Fukuda, ¶110].

By applying the weight coefficients of which ratio is 9:3:3:1, the location of the result of pixel addition is corrected to agree with a

barycenter of a unit area for pixel skip-reading-out (marked with a black dot in Fig. 13B). [Fukuda, ¶111].

The Office Action contends that Fukuda's system controller for spatially correcting the positions of barycenters corresponds to Applicant's correction unit which "corrects positions of barycenters of the inputted signals" as recited in pending claim 1. [5/29/07 Office Action, p. 4]. However, Fukuda is directed to an image readout process which skip-reads pixels from a two-dimensional array. That is, a plurality of pixels are read-out from a spatial area to give a value representative of a particular unit area. [Fukuda, ¶17]. Since signals are read out in two-dimensions, correction of barycenter positions is also performed over a two-dimensional spatial area. [Fukuda, ¶108]. Applicant, on the other hand, discloses an apparatus wherein signals from photoelectric elements are read on a line-by-line basis (i.e., in one dimension) and correction of positions of barycenters is based on "inputted lines of signals" as recited in amended claim 1. This distinction should be obvious by comparing Applicant's Figs. 2A and 2B (shown below) with Figs. 13A and 13B of Fukuda.

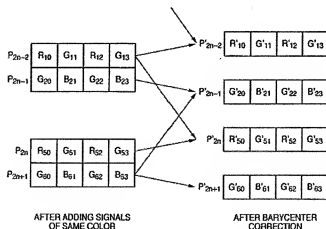


FIG. 2A

FIG. 2B

Applicant further notes that Fukuda's weight coefficient ratio of 9:3:3:1 for pixels G1 to G4 in Fig. 13A clearly do not yield a barycenter of a unit area located at the black dot shown in

Fig. 13B. That is, Fukuda's explanation is incorrect and, when using the aforementioned weight coefficients, the spatial distances between corrected barycenters of unit areas do not become equal. Thus, the correction unit recited in Applicant's amended claim 1 is not taught by Fukuda.

In addition to the distinctions noted above, Applicant respectfully disagrees with the Office Action and asserts that independent claims 1 and 7, as amended, would not have been obvious to one of ordinary skill in the art at the time of the invention. Fukuda discloses an apparatus which prevents image quality deterioration arising from pixel skip-reading-out. [Fukuda, ¶17]. Applicant, on the other hand, is directed to an image processing apparatus wherein barycenter deviation correction is performed to facilitate using the same camera signal processes (e.g., obtaining luminance and color difference signals) on signals obtained from both the first (non-addition mode) and second reading methods. As such, Applicant respectfully asserts that such a benefit is not taught by, nor is it obvious in light of Kijima and Fukuda.

Accordingly, Kijima and Fukuda - whether alone or in combination - fail to teach, disclose, or suggest a correction unit which "corrects positions of barycenters of the inputted lines of signals" as recited in Applicant's amended claim 1. Applicant submits claim 1 is patentably distinct from Kijima and Fukuda for at least this reason. Claim 1 is directed to an image sensing apparatus whereas independent claim 7 discloses a signal processing method and, as such, claim 7 is asserted to be patentably distinct for at least similar reasons. Since claims 2-4, 6, and 8-10 depend either directly or indirectly from claims 1 or 7 they are all allowable for the same additional independent reasons set forth with respect to claims 1 and 7. Accordingly, the Section 103 rejection of claims 1-4 and 6-10 should be withdrawn.

E. Claims 5 and 11-12 are Patentable over Kijima in view of Fukuda and further in view of the Cited References

Applicant respectfully traverses the rejection of claims 5 and 11-12 under 35 U.S.C. § 103(a) as allegedly being unpatentable for obviousness over Kijima in view of Fukuda and further in view of Maeda or Idle. For at least similar reasons as stated above and for the tertiary references failing to overcome the deficiencies of the primary and secondary references, claims 5 and 11-12 are asserted to be patentably distinct. Accordingly, Applicant respectfully traverses the Section 103 rejection of claims 5 and 11-12 over Kijima in view of Fukuda and further in view of Maeda or Idle.

Applicant has chosen in the interest of expediting prosecution of this patent application to distinguish the cited documents from the pending claims as set forth above. These statements should not be regarded in any way as admissions that the cited documents are, in fact, prior art. Furthermore, Applicant has not specifically addressed the rejections of the dependent claims. Applicant respectfully submits that the independent claims, from which they depend, are in condition for allowance as set forth above. Accordingly, the dependent claims also are in condition for allowance. Applicant, however, reserves the right to address such rejections of the dependent claims in the future as appropriate.

CONCLUSION

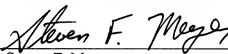
For the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is earnestly solicited. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED FOR THE TIMELY CONSIDERATION OF THIS AMENDMENT UNDER 37 C.F.R. §§ 1.16 AND 1.17, OR CREDIT ANY OVERPAYMENT TO DEPOSIT ACCOUNT NO. 13-4500, ORDER NO. 1232-5181.

Respectfully submitted,
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